

## CHAPTER 10. LABOUR, WAGES AND PRICES

### WHOLESALE PRICES AND PRICE INDEXES

#### Wholesale Price Index of Materials used in Building other than House Building

##### General

This index was introduced in April 1969 and relates to the construction of buildings other than houses. It is the first of a series of indexes which will be prepared as circumstances permit and which will relate to materials used and articles produced by important and defined areas (or 'sectors') of the economy. To a considerable extent it provides an up-to-date replacement for the Building Materials group of the Wholesale Price (Basic Materials and Foodstuffs) Index.

Further information concerning the method of compiling the Index, as well as more detailed group index numbers for each capital city, will be found in the publication *Price Index of Materials used in Building other than House Building* (reference no. 9.6) of 23 April 1969 and subsequent issues, as well as in the Appendix to *Labour Report* No. 53.

##### Scope and composition

The index measures changes in prices of selected materials used in the construction of buildings other than houses and 'low-rise' flats (in general, those up to three storeys).

Its composition is in accordance with the materials usage in actual building projects which were selected as representative for the purpose. The building 'use-types' (e.g. office building, factory, etc.) directly represented are:

- (i) 'High-rise' flats (in general, those of more than three storeys)
- (ii) Offices
- (iii) Factories
- (iv) Health buildings (i.e. hospitals, nurses' quarters, clinics, etc.)
- (v) Education buildings (i.e. schools, universities, kindergartens, etc.)
- (vi) Other Commercial Premises (i.e. the Building Statistics categories of Hotels, Hostels, etc.; Shops; and Other Business Premises).

The completed values of these types of buildings constituted approximately 86 per cent of the completed values of all new buildings other than houses and low-rise flats in the years 1964-65 to 1966-67 inclusive. Not directly represented are buildings for entertainment and recreation purposes, buildings for religious purposes, and the Building Statistics category 'Miscellaneous' buildings.

The index includes 72 items, combined in eleven groups, in addition to an 'All Groups' index. Some items carry the weights of similar items not directly priced. Items are described in terms of fixed specifications with the aim of recording price changes for representative materials of constant quality.

Although the selected materials (or many of them) are also used in house (and low-rise flat) building, in building repair, maintenance and alteration work, and in 'engineering construction' work (e.g. projects such as roads, dams, bridges and the like), the weighting pattern of the index, being designed for the specific purpose mentioned in the first paragraph of this Section, is not applicable to these other activities of the Construction industry. In addition, since the weights are based on an average materials usage over the stated range of building use-types, the index is not necessarily applicable to any specific building or any of the separate use-types.

##### Base period and method of calculation

The reference base of the index is the year 1966-67=100.0. The weighting base corresponds broadly with the reference base, but does not exactly coincide because of the nature of the data from which the weights were derived.

The index is a fixed-weights index and is calculated by the method known as 'the weighted arithmetic mean of price relatives'.

##### Derivation of items and weights

The items and weights used in the index were derived from reported values of each material used in selected representative buildings constructed in or about 1966-67. The selection took account of building use-type and construction characteristics (e.g. type of frame, wall, floor, etc.) within use-types. Information of the former was obtained from building statistics, and of the latter from an ad hoc survey of approximately 800 buildings.

The form used to obtain particulars of materials used in each selected building was set out on a 'trades' basis in the manner employed in a Bill of Quantities, using trades headings broadly based on those set out in the second edition of the *Australian Standard Method of Measurement of Building Works*. Under each heading it was required that each material used in that particular phase of building should be specified, together with its value.

Satisfactory analyses were received for 83 buildings, whose aggregate value was equivalent to approximately ten per cent of the value of building (other than house building) completed during 1966-67. The data from these analyses were combined to obtain a single list of materials and values relating to the sum of all building use-types directly represented in the index. Within each use-type the data were combined in accordance with the estimated relative importance of buildings of different value sizes. The data for the different use-types were then combined in accordance with their relative proportions by value in building commencements in Australia over the three years ended June 1967. The final step was to combine the hundreds of different varieties, etc., of materials into index items and to determine groupings thereof.

### The weights

The weighting pattern used in the index is given on pages 1259-60. This single weighting pattern, relating to the whole of Australia, is applied (with minor exceptions) to local price measures in calculating indexes for each State capital city.

The index for the six State capital cities combined is a weighted average of individual city indexes. The relative weighting of the capitals is in proportion to the estimated value on completion of building other than house building in the separate States during the three years ended June 1967.

### Prices

Price series used relate to specified standards of each commodity and are obtained in all State capital cities from representative suppliers of materials used in building. In the main they are collected as at the mid-point of the month to which the index refers, or as near thereto as practicable. However, the indicator used for the group Electrical Installation Materials is the existing wholesale price index described on pages 254-6, for which index prices were obtained each February, May, August and November until February 1969 when monthly compilation was commenced. In the Electrical Installation Materials group index observations are therefore quarterly up to February 1969, with the last observed level being used in intervening months, and monthly from February 1969 onwards.

There are some exceptions to the use of local prices in the indexes for each metropolitan area. In a few cases where suitable price series are not currently available for an item in a given city, imputation is necessary. For each metropolitan area, the whole of the group Electrical Installation Materials and the majority of the items in the group Mechanical Services Components are based on Sydney and Melbourne price series.

The point of pricing adopted for the new index is in keeping with sector wholesale price index concept. In terms of this concept a 'ring-fence' is set up around building other than house building. The items to be priced for index purposes are then those materials which are used in building activity within the ring-fence, and the point of pricing is that at which the materials cross the ring-fence. In general, this is the price 'delivered on-site'.

### Index numbers

The index has been compiled for each month from July 1966, and for the financial years from 1966-67. Index numbers for the individual groups and all groups for the weighted average of the six State capital cities, and for all groups combined for each State capital city, are given on pages 1256-58. Figures are published to one decimal place to avoid distortions that would occur in rounding off the index numbers to the nearest whole number.

The separate city indexes measure price movements in each State capital city individually. They enable comparisons to be drawn between capitals as to differences in degree of price movement from period to period, but not as to differences in price level.

**WHOLESALE PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN  
HOUSE BUILDING**  
**GROUP INDEX NUMBERS—WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES**  
(*Base of each Index: Year 1966-67 = 100.0*)(a)

<i>Period</i>	<i>Concrete mix, cement, sand, etc.</i>	<i>Cement products</i>	<i>Bricks, stone, etc.</i>	<i>Timber, board and joinery</i>	<i>Steel and iron products</i>	<i>Aluminium products</i>
1966-67 . . .	100.0	100.0	100.0	100.0	100.0	100.0
1967-68 . . .	101.5	102.2	103.7	103.0	102.3	101.4
1968-69 . . .	103.5	106.8	108.2	107.2	106.1	103.9
1966-67—						
July . . .	99.1	98.5	97.3	98.4	98.1	97.5
August . . .	99.4	98.5	99.2	98.7	99.1	98.8
September . . .	99.3	98.6	99.2	98.9	99.9	98.9
October . . .	99.4	99.5	99.5	99.8	100.0	99.0
November . . .	99.6	100.1	100.0	100.3	100.0	99.9
December . . .	99.5	100.2	100.0	100.4	100.0	99.9
January . . .	99.5	100.6	100.0	100.5	100.0	100.4
February . . .	99.6	100.6	100.0	100.4	100.4	101.1
March . . .	101.2	100.8	100.3	100.5	100.5	101.1
April . . .	101.2	100.8	101.3	100.6	100.6	101.1
May . . .	101.2	100.8	101.6	100.8	100.6	101.1
June . . .	101.2	100.9	101.6	100.8	100.8	101.1
1967-68—						
July . . .	101.3	100.9	101.6	101.2	101.2	101.2
August . . .	101.3	101.0	102.9	101.6	101.3	101.2
September . . .	101.3	101.2	103.1	102.7	101.4	101.2
October . . .	101.3	101.4	103.8	102.8	101.5	101.2
November . . .	101.5	102.0	103.8	103.1	101.6	101.2
December . . .	101.6	102.0	104.1	103.1	101.6	101.2
January . . .	101.6	102.0	104.1	103.1	101.6	101.4
February . . .	101.3	102.0	104.1	103.2	103.0	101.4
March . . .	101.5	102.1	104.1	103.3	103.3	101.4
April . . .	101.6	103.4	104.1	103.7	103.5	101.4
May . . .	101.6	104.0	104.1	103.9	103.6	101.3
June . . .	101.7	104.3	104.9	104.2	103.7	102.4
1968-69—						
July . . .	101.9	104.3	105.1	104.2	103.9	102.9
August . . .	102.1	104.4	105.5	104.8	103.9	103.0
September . . .	102.1	104.5	105.6	105.0	104.5	102.9
October . . .	102.1	104.8	106.5	105.3	105.0	104.0
November . . .	102.0	105.4	108.7	106.4	105.5	104.0
December . . .	104.5	106.9	109.1	107.4	105.7	104.3
January . . .	104.6	107.1	109.2	107.5	106.8	104.4
February . . .	104.7	107.5	109.4	108.0	107.1	104.1
March . . .	102.8	107.8	109.6	108.5	107.3	104.0
April . . .	105.0	109.1	109.6	109.2	107.5	104.1
May . . .	105.0	109.7	109.6	109.4	108.0	104.4
June . . .	105.1	109.9	109.9	110.1	107.9	105.1

(a) Figures are shown to one decimal place to avoid distortions that would occur in rounding off the index numbers to the nearest whole number.

WHOLESALE PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN  
HOUSE BUILDING  
GROUP INDEX NUMBERS—WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES—*continued*  
(Base of each Index: Year 1966-67 = 100.0)(a)

<i>Period</i>	<i>Other metal products</i>	<i>Plumbing fixtures</i>	<i>Miscel- laneous materials</i>	<i>Electrical installation materials(b)</i>	<i>Mechanical services components</i>	<i>All Groups</i>
1966-67 . . .	100.0	100.0	100.0	100.0	100.0	100.0
1967-68 . . .	105.9	102.8	102.3	100.9	101.4	102.2
1968-69 . . .	106.8	103.3	103.2	102.1	107.7	105.6
1966-67—						
July . . .	89.4	99.6	98.7	94.3	99.5	97.9
August . . .	107.6	99.6	98.8	100.7	99.7	99.5
September . . .	94.9	99.6	99.0	100.7	100.4	99.5
October . . .	99.7	99.7	99.5	100.7	100.4	99.9
November . . .	104.1	100.0	100.3	101.4	100.5	100.3
December . . .	104.1	100.0	100.3	101.4	100.5	100.3
January . . .	104.1	100.0	100.4	101.4	100.4	100.4
February . . .	104.1	99.8	100.1	101.6	100.4	100.5
March . . .	103.9	100.3	100.4	101.6	99.8	100.7
April . . .	96.0	100.3	100.6	101.6	99.5	100.6
May . . .	96.1	100.3	100.8	97.5	99.5	100.3
June . . .	96.1	100.7	101.2	97.5	99.5	100.4
1967-68—						
July . . .	96.0	100.7	101.3	97.5	100.0	100.6
August . . .	95.9	101.4	101.4	97.6	99.3	100.7
September . . .	96.5	103.5	101.6	97.6	99.9	101.0
October . . .	98.4	103.3	101.5	97.6	99.9	101.1
November . . .	110.8	103.3	102.0	102.2	100.4	102.1
December . . .	110.8	103.3	102.7	102.2	100.4	102.1
January . . .	110.8	103.3	102.7	102.2	100.6	102.2
February . . .	110.8	103.3	102.8	104.0	102.2	102.9
March . . .	116.3	103.3	102.7	104.0	102.7	103.3
April . . .	116.3	103.3	102.8	104.0	102.7	103.5
May . . .	106.4	102.6	102.8	100.9	104.0	103.2
June . . .	101.2	102.6	102.7	100.9	104.8	103.3
1968-69—						
July . . .	100.3	102.5	103.3	100.9	105.3	103.5
August . . .	100.4	102.0	103.3	99.0	105.6	103.5
September . . .	101.3	102.0	103.3	99.0	106.0	103.8
October . . .	102.3	102.0	103.1	99.0	107.0	104.2
November . . .	102.8	102.2	103.1	100.2	108.1	104.9
December . . .	105.3	103.0	102.7	100.2	108.1	105.5
January . . .	105.4	102.6	102.5	100.2	108.1	105.9
February . . .	109.5	102.5	103.3	104.1	108.3	106.5
March . . .	109.9	104.5	103.3	104.6	108.7	106.6
April . . .	111.7	105.3	103.4	105.0	108.9	107.2
May . . .	114.8	105.3	103.6	105.7	109.2	107.6
June . . .	117.9	105.3	103.6	107.2	109.4	107.9

(a) Figures are shown to one decimal place to avoid distortions that would occur in rounding off the index numbers to the nearest whole number. (b) The Wholesale Price Index of Electrical Installation Materials is used as the indicator for this group. This indicator was on a quarterly basis until February 1969 when monthly compilation was commenced.

**WHOLESALE PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN  
HOUSE BUILDING**

**ALL GROUPS INDEX NUMBERS—SIX STATE CAPITAL CITIES**

*(Base of each Index: Year 1966-67 = 100.0)(a)*

NOTE. The separate city indexes measure price movements within each city individually. They do not compare price levels as between cities.

Period	State capital cities						Weighted average of six State capital cities
	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	
1966-67 . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1967-68 . . .	102.6	101.7	102.2	101.8	102.0	102.3	102.2
1968-69 . . .	106.5	105.0	105.1	105.0	104.7	105.1	105.6
1966-67—							
July . . .	97.4	98.2	98.0	98.5	98.1	97.8	97.9
August . . .	99.1	99.6	99.7	99.9	99.8	99.5	99.5
September . . .	99.3	99.6	99.6	99.6	99.7	99.7	99.5
October . . .	99.7	100.1	99.8	99.8	99.9	99.9	99.9
November . . .	100.3	100.4	100.3	100.3	100.3	100.3	100.3
December . . .	100.3	100.4	100.2	100.3	100.3	100.5	100.3
January . . .	100.3	100.4	100.4	100.3	100.3	100.5	100.4
February . . .	100.5	100.6	100.7	100.4	100.3	100.7	100.5
March . . .	100.9	100.5	100.6	100.5	100.4	100.6	100.7
April . . .	100.9	100.3	100.5	100.3	100.2	100.4	100.6
May . . .	100.5	99.9	100.3	100.0	100.4	100.1	100.3
June . . .	100.7	99.9	100.3	100.0	100.4	100.2	100.4
1967-68—							
July . . .	100.9	100.3	100.6	100.2	100.6	100.8	100.6
August . . .	101.1	100.2	100.8	100.4	100.6	100.8	100.7
September . . .	101.6	100.4	101.0	100.5	100.9	100.9	101.0
October . . .	101.7	100.5	101.1	100.6	101.2	101.0	101.1
November . . .	102.6	101.4	102.1	101.6	102.0	101.9	102.1
December . . .	102.6	101.5	102.2	101.7	102.2	101.9	102.1
January . . .	102.6	101.6	102.2	101.8	102.2	101.9	102.2
February . . .	103.1	102.7	103.2	102.9	102.6	103.2	102.9
March . . .	103.6	102.9	103.3	103.2	102.9	103.5	103.3
April . . .	103.7	103.1	103.4	103.2	102.9	103.8	103.5
May . . .	103.6	102.8	103.1	102.9	102.6	103.6	103.2
June . . .	103.8	102.8	103.1	103.0	102.9	103.8	103.3
1968-69—							
July . . .	104.1	102.9	103.2	103.4	103.1	103.8	103.5
August . . .	104.2	102.9	103.0	103.3	103.2	103.7	103.5
September . . .	104.6	103.2	103.1	103.4	103.5	103.8	103.8
October . . .	104.9	103.9	103.5	103.7	103.8	104.0	104.2
November . . .	105.6	104.6	104.3	104.2	104.4	104.5	104.9
December . . .	106.5	104.8	105.5	104.6	104.5	104.7	105.5
January . . .	106.8	105.2	105.9	105.1	104.8	105.1	105.9
February . . .	107.5	105.8	106.5	105.8	105.5	105.5	106.5
March . . .	107.9	106.0	104.9	106.4	105.7	106.1	106.6
April . . .	108.3	106.4	106.7	106.5	105.8	106.1	107.2
May . . .	108.8	106.6	107.5	106.9	106.0	106.6	107.6
June . . .	109.2	107.1	107.6	107.1	106.4	106.9	107.9

(a) Figures are shown to one decimal place to avoid distortions that would occur in rounding off the index numbers to the nearest whole number.

**WHOLESALE PRICE INDEX OF MATERIALS USED IN BUILDING  
OTHER THAN HOUSE BUILDING**  
**COMPOSITION AND WEIGHTING PATTERN AS AT REFERENCE BASE YEAR: 1966-67**

<i>Group and item</i>	<i>Percentage contribution of</i>	
	<i>Item to group index</i>	<i>Group to All Groups index</i>
<b>1. Concrete mix, cement, sand, etc.</b>		<b>10.41</b>
Concrete, ready-mixed . . . . .	80.23	
Cement . . . . .	8.58	
Sand . . . . .	4.66	
Aggregate . . . . .	4.56	
Lime . . . . .	1.97	
<b>2. Cement products</b>		<b>3.64</b>
Asbestos cement sheets . . . . .	32.40	
Concrete masonry blocks . . . . .	32.99	
Pre-cast concrete panels . . . . .	19.73	
Other pre-cast concrete products (beams, slabs, pipes and fittings) .	14.88	
<b>3. Bricks, stone, etc.</b>		<b>5.28</b>
Clay bricks . . . . .	71.64	
Earthenware pipes and fittings . . . . .	11.66	
Terrazzo . . . . .	10.94	
Building stone . . . . .	5.76	
<b>4. Timber, board and joinery</b>		<b>11.90</b>
Timber—hardwood . . . . .	27.11	
Timber—softwood . . . . .	12.93	
Plywood . . . . .	9.34	
Hardboard and softboard . . . . .	4.42	
Partitions . . . . .	13.71	
Doors, ready made . . . . .	7.07	
Other joinery . . . . .	25.42	
<b>5. Steel and iron products</b>		<b>30.58</b>
Structural steel . . . . .	47.15	
Reinforcing rods . . . . .	11.68	
Reinforcing fabric . . . . .	3.85	
Steel doors and frames . . . . .	3.69	
Steel window frames . . . . .	1.79	
Steel louvre frames and screens . . . . .	1.09	
Steel roller shutters and grilles . . . . .	1.82	
Steel balustrading . . . . .	1.70	
Steel angles and sections . . . . .	1.93	
Steel suspended ceilings . . . . .	1.16	
Galvanised steel decking and cladding . . . . .	9.11	
Galvanised steel sheet and sheet products . . . . .	4.76	
Galvanised steel chainwire partitions and fences . . . . .	1.61	
Galvanised steel wire fabric and ties . . . . .	0.41	
Steel pipes and fittings . . . . .	1.99	
Cast iron pipes and other cast iron products . . . . .	2.36	
Hinges, catches, handles, bolts, etc. . . . .	2.87	
Nails, screws, etc. . . . .	1.03	
<b>6. Aluminium products</b>		<b>6.01</b>
Aluminium window frames . . . . .	59.89	
Aluminium screens, doors, louvres, etc. . . . .	8.10	
Aluminium decking and cladding . . . . .	16.72	
Aluminium downpipe and guttering . . . . .	6.38	
Aluminium dampcourse and flashing . . . . .	4.97	
Aluminium sections and angles . . . . .	3.94	

WHOLESALE PRICE INDEX OF MATERIALS USED IN BUILDING  
OTHER THAN HOUSE BUILDING  
COMPOSITION AND WEIGHTING PATTERN AS AT REFERENCE BASE YEAR:  
1966-67—*continued*

Group and item	Percentage contribution of	
	Item to group index	Group to All Groups index
<b>7. Other metal products</b>		<b>2.59</b>
Copper pipes . . . . .	49.11	
Copper sheet and sheet products . . . . .	15.43	
Brass pipe fittings . . . . .	16.64	
Taps and valves . . . . .	14.03	
Lead products . . . . .	4.79	
<b>8. Plumbing fixtures</b>		<b>1.19</b>
Toilet suites and pans . . . . .	29.81	
Hand basins . . . . .	21.66	
Sinks . . . . .	24.18	
Urinals . . . . .	20.60	
Baths . . . . .	3.75	
<b>9. Miscellaneous materials</b>		<b>7.09</b>
Paint . . . . .	17.31	
Glass . . . . .	18.82	
Plaster and plaster products . . . . .	9.36	
Tiles, acoustic . . . . .	9.93	
Tiles, ceramic . . . . .	9.94	
Tiles, vinyl . . . . .	14.46	
Plastic sheeting . . . . .	3.10	
Other plastic products . . . . .	4.05	
Insulation . . . . .	8.13	
Building paper . . . . .	2.17	
Bituminous built-up roofing . . . . .	2.73	
<b>10. Electrical installation materials</b>		<b>8.61</b>
Conductors . . . . .	40.00	
Conduit and accessories . . . . .	25.00	
Switchboard and switchgear materials . . . . .	35.00	
<b>11. Mechanical services components</b>		<b>12.70</b>
Air conditioning . . . . .	59.80	
Heating systems . . . . .	9.33	
Elevators and escalators . . . . .	16.32	
Fire protection installations . . . . .	14.55	